REMARKS

Claims 1, 2, 18, 20, and 28 remain pending in the present application. Claims 3-16, 21-27 and 29-48 were previously canceled without prejudice. Claims 17 and 19 are hereby canceled without prejudice. Claims 1, 18, 20 and 28 are hereby amended. No new matter is being added.

Rejection under Section 112

Claim 28 stands rejected under Section 112, second paragraph, for lack of antecedent basis for "said particles." Applicants have hereby amended claim 28 to replace "said particles" with --charged particles--. As such, applicants respectfully submit that the antecedent basis problem in claim 28 is now corrected such that this rejection is overcome.

Rejection under Sections 102 and 103

Claims 1, 2, 18, 20, and 28 stand rejected under Section 102 as being anticipated by Wagner et al. (USP 5,659,172) or rejected under Section 103 as being unpatentable over Wagner et al. in view of Maeda et al.. Applicants traverse these rejections with respect to the claims as hereby amended.

Claim 1 is hereby amended and now recites as follows.

Claim 1:: A method of inspecting and/or characterizing a substrate, comprising:

obtaining a first dataset, wherein said first dataset includes data derived from an image collected by a first detector of a first region of said substrate;

obtaining a second dataset, wherein said second dataset includes data derived from an image collected by a second detector of at least a portion of said first region of said substrate;

obtaining a third dataset, wherein said third dataset includes data derived from an image collected by said first detector from a second region of said substrate, wherein said second region of said substrate is expected to be substantially identical to said first region;

obtaining a fourth dataset, wherein said fourth dataset includes data derived from an image collected by said second detector of at least a portion of said second region of said substrate; and

processing information derived from said first, second, third and fourth datasets to detect a defect in at least one of said first or second regions, wherein said information processing includes calculating a first function representing comparison between said first and third datasets and calculating a second function representing comparison between said second and fourth data sets, and

classifying the detected defect using output values of the first and second functions.

(Emphasis added.)

Example results from one embodiment of the method recited in amended claim 1 are shown in FIG. 8 of the present application, which is reproduced below for convenience.

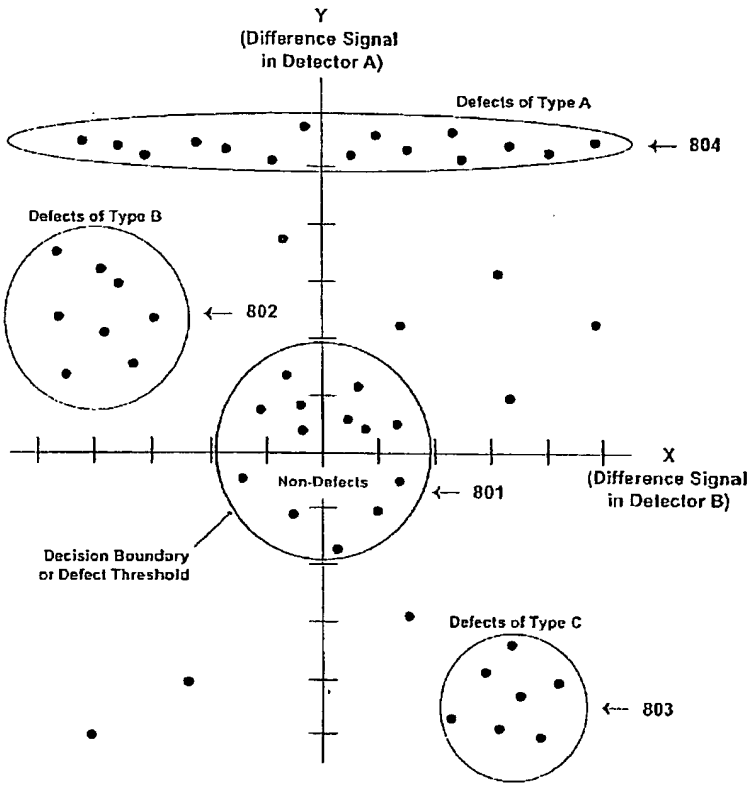

Figure 8

As shown by the embodiment of FIG. 8, potential defects may be plotted in two dimensions. The output of the claimed "first function" determines the position along one axis (for example, the Y axis), and the output of the claimed "second function" determines the position along the other axis (for example, the X axis). **As required by amended claim 1, the detected defect is classified using output values of the first and second functions.**

As recited in amended claim 20, "defects whose output values of the first and second functions cluster together are classified as a same defect type." For example, in FIG. 8, defects are classified into a defect type (A, B, or C) based on their having similar X and Y values (i.e. their points are clustered together).

Wagner et al. does not disclose or suggest the claimed invention of claim 1. In particular, Wagner et al does not disclose or suggest "classifying the detected defect using output values of the first and second functions."

On the contrary, Wagner et al. teaches that **other attributes of a defect** are used for classification. Wagner discloses these other attributes to be "**defect location**", "**defect size**", and "**defect boundary**." (Wagner et al., column 9, lines 47-54.)

Maeda et al. also does not disclose or suggest "classifying the detected defect using output values of the first and second functions." The system of Maeda et al. utilizes only one detector perspective. Hence, no such first and second functions (each function pertaining to a different detector) is disclosed in Maeda et al.

For at least the above-discussed reasons, amended claim 1 is now patentably distinguished over the cited art.

The remaining claims 2, 18, 20 and 28 depend from claim 1. As such, claims 2, 18, 20 and 28 are also now patentably distinguished over the cited art for at least the same reasons discussed above in relation to claim 1.

The Examiner is invited to call the undersigned for any questions. Favorable action is respectfully solicited.

Respectfully submitted,
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